RESEARCH, DEVELOPMENT & TECHNOLOGY TRANSFER
QUARTERLY PROGRESS REPORT

Wisconsin Department of Transportation
DT1241 02/2011

INSTRUCTIONS:
Research project investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT research program category: ☐ Policy research ☒ Wisconsin Highway Research Program ☐ Other ☐ Pooled fund TPF#		Report period year: 2013 ☐ Quarter 1 (Jan 1 – Mar 31) ☐ Quarter 2 (Apr 1 – Jun 30) ☐ Quarter 3 (Jul 1 – Sep 30) ☒ Quarter 4 (Oct 1 – Dec 31)
Project title: Predicting Scour of Bedrock in Wisconsin		
Project investigator: Hani Titi	Phone: 414-229-6893	E-mail: hanititi@uwm.edu
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WisDOT contact: Jeffrey Horsfall	Phone: 608-243-5993	E-mail: Jeffrey.Horsefall@dot.wi.gov
WisDOT project ID: 0092-12-07	Other project ID:	Project start date: 11/1/2011
Original end date: 5/1/2013	Current end date: 5/1/2014	Number of extensions: 1

Project schedule status:

☐ On schedule ☐ On revised schedule ☐ Ahead of schedule ☒ Behind schedule

Project budget status:

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
94989	452	27634	29	42

Project description:

The objective of the research is to assess the ability of the newly developed NCHRP 24-29 to characterize the scour for various types of Wisconsin bedrock at selected structures throughout the state. The study will evaluate the need to refine the test procedures and establish a range of typical values of the test parameters for Wisconsin bedrock. The research will also compare the new method to current practice and communicate the potential benefits that can be realized through WisDOT implementation.
The proposed study described hereinafter will directly follow the objectives specified in the RFP from WHRP:

1. We will collect geologic and hydrologic data from selected sites in Wisconsin where bridges are founded on bedrock.
2. We will conduct field and laboratory test to establish parameters that characterize the relationships between the bedrock erosion rate and the hydraulic loading, following methods developed for the NCHRP Project 24-29.
3. We will refine the test procedure and establish models that include a range of parameters specific for Wisconsin bedrock. We will apply the new models to more accurately predict rock scour at Wisconsin bridges.
4. We will also compare the new model to current practice and communicate the potential benefits that can be realized through WisDOT implementation. Final results will be incorporated into the current WisDOT Bridge Manual with additional procedures for bridge scour analysis.

Progress this quarter (includes meetings, work plan status, contract status, significant progress, etc.):

1. Continued work on the literature review
2. Started the process to subcontract field work to Collins Engineers
3. Communicated with WisDOT with regard to scheduling field work

Anticipated work next quarter:

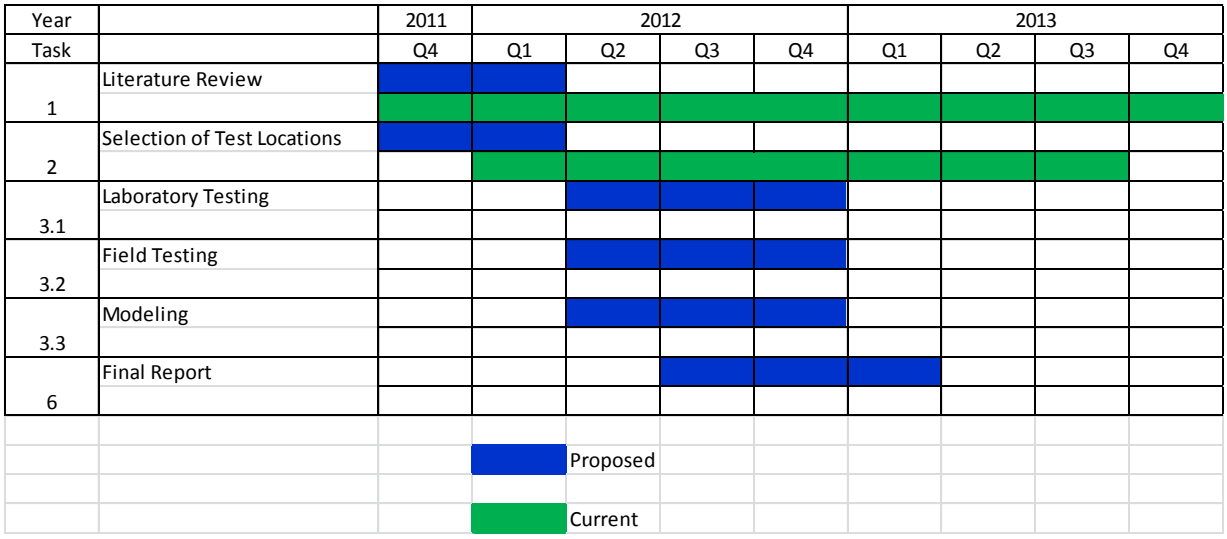
1. Conduct field work at the selected bridge sites weather permitting
2. Start analyzing data as it is collected
3. Perform laboratory tests on collected samples

Circumstances affecting project or budget:

The cost estimate provided by Collins Engineers during in proposal was exceeded when Collins Engineers provided the documents for the subcontract. The PI is in the process of negotiating with Collins Engineers to reach an agreement.

Due to the nature of the project, field testing needs to be done when there is no freezing conditions to be able to navigate water channels. Rock coring and sampling depend on WisDOT schedule. No cost time extension will be necessary for one more year.

Attach / insert Gantt chart and other project documentation



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Staff receiving QPR: K. Dinkins	Date received: 1/21/14
Staff approving QPR:	Date approved: